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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/991,984	11/26/2001	Shunichi Seki	111184	4300

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EXAMINER
DOLAN, JENNIFER M

ART UNIT	PAPER NUMBER
2813	10

DATE MAILED: 01/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/991,984	SEKI ET AL.	
	Examiner	Art Unit	
	Jennifer M. Dolan	2813	

-- The MAILING DATE of this communication appears on th cover sheet with the correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) *1-11* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *5* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

This action is in response to the 'Response to Restriction requirement', filed 10/17/02.

Election/Restrictions

1. Applicant's election with traverse of Group II, claims 12-23, drawn to a device, in Paper No. 9, filed 10/17/02 is acknowledged. The traversal is on the ground(s) that the subject matter of claims 1-23 is sufficiently related that a thorough search for the subject matter of any one group of claims would encompass a search for the subject matter of the remaining claims. This is not found persuasive because the product of group II can be made by a materially different process, such as one in which the EL layer is not coated on the electrode, but rather has the electrode layer formed on the backside thereof. Because the inventions are distinct and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 12-20 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 recites the limitation "the electrodes" in line 6. There is insufficient antecedent basis for this limitation in the claim. It is unclear as to whether "the electrodes" formed in the dummy area comprise a subset of "the plurality of electrodes" with an organic EL layer formed above, from line 3, or whether "the electrodes" comprise an entirely new set of electrodes, because "the plurality of electrodes" is already claimed to be formed in the effectively optical area. For the purposes of examination, it is assumed that one subset of "the plurality of electrodes" is formed in the effectively optical area, and another subset is formed in the dummy area, such that the organic EL layer is formed above the electrodes in both the optical and dummy areas.

Claim 16 recites the limitation "the organic bank layer". There is insufficient antecedent basis for this limitation in the claim.

Claim 18 recites the limitation "the bank layer". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 22 is rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Publication 10-012377 to Shimoda et al. (cited by applicant).

Shimoda discloses an organic EL device (abstract) comprising: an effectively optical area (figures 1 and 2, top or bottom surface in entirety) having a plurality of electrodes (103, 203) and an organic EL layer (106-108) formed above each of electrodes (figure 1), the organic EL layer being formed in areas not having the electrodes (figure 1c) and which are supposed to be the effectively optical area.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 12, 20, 21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimoda et al. in view of U.S. Patent No. 6,163,352 to Ichikawa et al.

Regarding claims 12 and 20, Shimoda discloses an organic EL device (abstract), comprising: a plurality of electrodes (103); an organic EL layer (106-108) formed above each of the plurality of electrodes (figures 1a-1d); and an effectively optical area in which the plurality of electrodes are formed (figures 1a-1d; entire top or bottom surface).

Shimoda fails to disclose a dummy area that is disposed around the effectively optical area, in which the electrodes are also formed.

Ichikawa discloses a dummy area that is disposed around the effectively optical area (column 16, lines 14-26). Ichikawa further discloses that the dummy pixels have a similar profile as the active pixels, which as per claim 20, suggests that the dummy pixels have substantially the same cross sectional structure as optical pixels. (column 16, lines 14-18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the organic EL device of Shimoda such that it includes the dummy area, taught by Ichikawa, such that the dummy area comprises electrodes and an organic EL layer formed above each electrode, as further suggested by Ichikawa. The rationale is as follows: A person having ordinary skill in the art would have been motivated to provide dummy pixels with a similar profile as the optical area pixels, because the inclusion of dummy pixels helps improve the manufacturing uniformity of the optical display (see Ichikawa, column 16, lines 18-26). A person skilled in the art would further choose a dummy pixel with substantially the same cross sectional structure as that of an active pixel (i.e.. having an electrode and an EL layer formed above the electrode), because doing so further improves the uniformity of manufacturing, by ensuring uniform surface pressure and luminescent material injection conditions.

Regarding claim 21, Shimoda discloses an organic EL device (abstract), comprising: an effectively optical area (entire top or bottom surface of figures 1a-1d) having a plurality of electrodes (103) and an organic EL layer (106-108) formed above each of the electrodes (figures 1a-1d); the organic layer formed on areas supposed to be the effectively optical area.

Shimoda fails to disclose that the organic EL layer is formed on areas not supposed to be the effectively optical area.

Ichikawa discloses a dummy area/ not effectively optical area that is disposed around the effectively optical area (column 16, lines 14-26). Ichikawa further discloses that the dummy pixels have a similar profile as the active pixels (column 16, lines 14-18), which suggests that the luminescent layer would be formed thereon.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the organic EL device of Shimoda such that it includes an area not supposed to be the effectively optical area, with the organic EL layer formed thereon, as suggested by Ichikawa. The rationale is as follows: A person having ordinary skill in the art would have been motivated to provide non-optical pixels with a similar profile as the optical area pixels, because the inclusion of dummy pixels helps improve the manufacturing uniformity of the optical display (see Ichikawa, column 16, lines 18-26). A person skilled in the art would further choose a dummy pixel profile with substantially the same profile as that of an active pixel (i.e.. having an electrode and an EL layer formed above the electrode), because doing so further improves the uniformity of manufacturing, by ensuring uniform surface pressure and luminescent material injection conditions.

Regarding claim 23, Shimoda discloses an organic EL display body, which constitutes an electronic device (abstract).

Allowable Subject Matter

8. Claims 13-19 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record, considered as a whole, fails to teach the specific structural requirements for a dummy area, as required by claims 13-19. U.S. Patent No. 6,163,352 to Ichikawa et al. suggests a dummy area surrounding the display area, in which the dummy pixels have substantially the same profile as active pixels, but fails to suggest dummy pixels with the specific structural differences, as claimed. The features of claims 13-19 improve upon the prior art of Ichikawa by further improving the uniformity of luminescent material deposition, such that display performance parameters like luminance and chrominance have enhanced uniformity.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. U.S. Patent Publication No. 2001/0009689 to Himeshima et al. discloses an organic EL device in which the bottom electrodes and EL coating area extend outside of the optical area.

b. U.S. Patent No. 6,489,952 to Tanaka et al. discloses bank layers disposed between the pixel electrodes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer M. Dolan whose telephone number is (703) 305-3233. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W. Whitehead, Jr. can be reached on (703) 305-4940. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jennifer M. Dolan
Examiner
Art Unit 2813

jmd
January 9, 2003

CARL WHITEHEAD, JR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800